

## REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Claims 2, 4, 6 and 8-30 are cancelled, and new Claims 44-51 are presented for consideration. Thus, the claims currently pending in this application are Claims 1, 3, 5, 7 and 31-51. Claims 1, 31, 36, 41 and 47 are the only independent claims.

Appreciation is expressed to Examiner Foreman for the indication that Claims 5 and 6 recite subject matter that patentably distinguishes over the prior art when considered in combination with the subject matter recited in independent Claim 1.

As set forth above, independent Claim 1 has been amended to recite, *inter alia*, a guide wire comprising a first wire disposed on the distal side of said guide wire, a second wire disposed on the proximal side from said first wire, wherein said first wire and said second wire are joined to each other by welding. In addition, a welded portion formed by the welding has a projection projecting in the outer peripheral direction, the projection extending on both axial sides of the welded portion. Claim 1 further recites that the proximal side and the distal side of said projection are formed into shapes asymmetric to each other with respect to the welded surface of said welded portion, as previously recited in Claim 6, which was indicated to be allowable over the prior art of record. Accordingly, Applicants respectfully submit that Claim 1 as amended herein to include the recitations of allowable Claim 6 is now in condition for allowance.

Independent Claim 31 recites a guide wire comprising a first wire disposed on the distal side of the guide wire, and a second wire disposed on the proximal side from the first wire, wherein the first wire is made of a pseudo-elastic alloy and the

second wire is made of a different material than the first wire. The second wire possesses an elasticity modulus greater than the elasticity modulus of the first wire. In addition, the first wire and the second wire are joined to each other by welding, and the welded portion formed by the welding has a projection projecting in the outer peripheral direction on both axial sides of the welded portion. The proximal side and the distal side of the projection are formed into shapes asymmetric to each other with respect to the welded surface of the welded portion, and the first second wires are not helical coils. The welded surface of the welded portion at which the first and second wires are welded to each other is located at a maximum outer-diameter portion of the projection to disconcentrate stress to a smaller outer-diameter portion close to the projection. Further, a spiral coil covers at least a distal end portion of the first wire, and material forming at least one of the proximal end of the first wire and the distal end of the second wire constitutes at least a part of the projection.

This claim is patentably distinguishable over a combination of the disclosure in Jafari and Sakata or Orr and Sakata because Claim 31 also recites that the proximal side and the distal side of the projection are formed into shapes asymmetric to each other with respect to the welded surface of the welded portion, which was indicated to be allowable subject matter in Claim 6.

Independent Claim 36 is similar to Claim 1, and additionally recites a cover layer that is in direct contact with the outer peripheral surface of the projection to cover the projection, and that the cover layer is a friction-reducing polymer material. Claim 36 further recites that the proximal side and the distal side of the projection are formed into shapes asymmetric to each other with respect to the welded surface of the welded portion, which was indicated to be allowable subject matter in Claim 6.

Claim 36 is thus allowable over a combination of Jafari and Sakata or Orr and Sakata.

Independent Claim 41 is similar to Claim 1 and also recites that the proximal side and the distal side of the projection are formed into shapes asymmetric to each other with respect to the welded surface of the welded portion, as previously set forth in allowable Claim 6. Thus, Claim 41 is allowable over a combination of Jafari and Sakata or Orr and Sakata.

Newly added Claim 47 is directed to a guide wire comprising, *inter alia*, a first wire disposed on the distal side of the guide wire, and a second wire disposed on the proximal side from the first wire, wherein the first wire and the second wire are joined to each other by welding, In addition, a welded portion formed by the welding has a projection projecting in the outer peripheral direction, the projection extending on both axial sides of the welded portion, and the welded portion does not extend farther radially outwardly than an enlarged proximal-most end portion of the first wire and does not extend farther radially outwardly than a distal-most end portion of the second wire.

The primary reference relied upon by the Examiner in the rejection of Claim 1, Orr, discloses a guide wire specifically constructed to include a radiopaque core segment covered by a radiolucent coil. The advantages associated with this construction are discussed in lines 27-41 of column 2 of Orr. More specifically, the disclosed guide wire 10 includes a core wire 20 possessing a radiolucent portion 25 and a radiopaque portion 30, and a radiolucent coil 15 encircling the distal portion of the coil wire 20. The patent states that the radiolucent portion 25 and the radiopaque portion 30 are attached by adhesive, welding, brazing, a pin or a screw

at an attachment joint 40. The Official Action takes the position that the radiopaque portion 30 of the core wire disclosed in Orr corresponds to the claimed first wire, while the radiolucent portion 25 of the core wire in Orr corresponds to the claimed second wire. The Official Action goes on to correctly note that Orr does not disclose a projection at the joint 40.

Similarly, the primary reference relied upon by the Examiner in rejecting Claims 31-43, Jafari, discloses an elongated, relatively high strength proximal core section 11, a relatively short flexible distal core section 12 and a tubular connecting element 13. As noted in the Official Action, Jafari fails to disclose the joined portion including a welded portion forming a projection that projects in an outer peripheral direction, the projection extending on both axial sides of the welded portion.

Accordingly, in combination with both of the above primary references, the Official Action also relies upon Takata, which is directed to an apparatus for welding plural wire rod elements. Takata discloses that two or more wire rod elements 10 are welded end to end so as to form long wire rod 11. When carrying out this type of butt welding of two or more wire rod elements in manufacturing the long wire rod, Takata discloses a welding distortion part 30 that is formed (Drawing 4).

It is respectfully submitted that a combination of the disclosures in Orr and Takata or Jafari and Takata fail to provide sufficient evidence establishing obviousness of the claimed guide wire set forth in independent Claim 47. More specifically, the combination of references fail to suggest that "the welded portion does not extend farther radially outwardly than an enlarged proximal-most end portion of the first wire and does not extend farther radially outwardly than a distal-most end portion of the second wire", as recited in Claim 47.

The dependent claims are allowable at least by virtue of their dependence from allowable independent claims and so a detailed discussion of the additional distinguishing features set forth in the dependent claims is not presented at this time.

Early and favorable action concerning this application is respectfully requested.

Should the Examiner have any questions concerning this application or believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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